Exhibit C

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,990	11/13/2001	Volker Fischer	DE9-2000-0040 (269)	7047

40987 7590 05/23/2005

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EXAMINER	
ALBERTALLI, BRIAN LOUIS	

ART UNIT	PAPER NUMBER
2655	

DATE MAILED: 05/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/007,990	FISCHER ET AL.	
	Examiner	Art Unit	
	Brian L Albertalli	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-32 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1,14,15,28,29,31 and 32 is/are rejected.

7)☒ Claim(s) 2-13,16-27 and 30 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendments to the claims have been entered. Claims 1, 2, 11, 15, 16, and 25 are currently amended, and new claims 29-32 have been added.

Response to Arguments

2. Applicant's arguments with respect to claims 1 and 15 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

3. The amendments to the claims overcome the rejection of claims 11 and 25 under 35 U.S.C 112.

Claim Objections

4. Claims 2 and 16 are objected to because of the following informalities: in line 3 of currently amended claim 2, "comprising" should be –comprises--. Similarly, in line 3 of currently amended claim 16, "comprising" should be –comprises--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claims 1, 14, 29, 31, and 32 are rejected under 35 U.S.C. 102(a) as being anticipated by Schultz et al. (*Polyphone Decision Tree Specialization for Language Adaptation*).

In regard to claim 1, Schultz et al. disclose a computerized method of automatically generating from a first recognizer (five-lingual recognizer containing Croatian, Japanese, Korean, Spanish, and Turkish data) a second speech recognizer (Portuguese recognizer), said first recognizer comprising a first acoustic model with a first decision network and corresponding first phonetic contexts (Fig. 2, Polyphone Cluster Tree before Polyphone Decision Tree Specialization (PDTS), page 3, section 3, lines 8-10), and said second speech recognizer being adapted to a specific domain (the Portuguese language, page 3, section 4, lines 1-3), said method comprising:

based on said first acoustic model, generating a second acoustic model with a second decision network and corresponding second phonetic contexts for said second speech recognizer (Fig. 3, Polyphone Cluster Tree after PDTS) by re-estimating the first decision network and said corresponding first phonetic contexts based on domain-specific training data (the Polyphone Cluster Tree of Fig. 2 is put through a regrowing process using Portuguese training data to produce the Polyphone Cluster Tree of Fig. 3, page 3, section 3, 2nd paragraph and section 4, lines 1-5),

wherein said first decision network and said second decision network utilize a phonetic decision tree to perform the speech recognition operations (the Polyphone

Cluster Trees of Fig. 2 and Fig. 3 are phonetic decision trees, i.e. a set of phone questions which form a binary decision network),

wherein the number of nodes in the second decision network is not fixed by the number of nodes in the first decision network (the Polyphone Cluster Tree of Fig. 2 has only 4 nodes, while the Polyphone Cluster Tree of Fig. 3 after the regrowing process is expanded to 18 nodes, page 3, section 3, 1st paragraph, lines 10-12 and second paragraph lines 2-3).

In regard to claim 14, Schultz et al. disclose the domain is a language (Portuguese, page 3, section 4, lines 1-3).

In regard to claim 29, Schultz et al. disclose a computerized method of generating a second speech recognizer comprising the steps of:

identifying a first speech recognizer of a first domain comprising a first acoustic model with a first decision network and corresponding first phonetic contexts (five-lingual recognizer containing Croatian, Japanese, Korean, Spanish, and Turkish data, Fig. 2, and page 3, section 4, lines 1-3);

receiving domain-specific training data of a second domain (Portuguese training data, page 3, section 4, lines 3-5);

based on the first speech recognizer and the domain specific training data, generating a second acoustic model of said first domain and said second domain comprising a second acoustic model with a second decision network and corresponding

second phonetic contexts (the Polyphone Cluster Tree of Fig. 2 is put through a regrowing process using Portuguese training data to produce the Polyphone Cluster Tree of Fig. 3, page 3, section 3, 2nd paragraph and section 4, lines 1-5).

In regard to claim 31, Schultz et al. disclose the first domain is a general-purpose domain (built from several languages) and wherein the second domain comprises at least one dialect (the dialect of the spoken Portuguese utterances used to train the second recognizer, page 3, section 4, lines 1-3).

In regard to claim 32, Schultz et al. disclose the first domain is a general-purpose domain (built from several languages) and wherein the second domain comprises at least one task area (the task of recognizing Portuguese, page 3, section 4, lines 1-3).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 15 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz et al.

In regard to claim 15, as discussed in reference to claim 1, above, Schultz et al. disclose all the features of the instant claim, except that the method is implemented as a plurality of code sections stored on machine-readable storage.

Official notice is taken that it is notoriously well known and recognized in the art to store a computerized method as a plurality of code sections stored on machine-readable storage so that the method can be executed by the computer and transferred from one computer to another.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Schultz et al. to implement the method as a plurality of code sections stored on a computer readable medium, so that the method can be executed by the computer and transferred from one computer to another.

In regard to claim 28, Schultz et al. disclose the domain is a language (Portuguese, page 3, section 4, lines 1-3).

Allowable Subject Matter

9. Claims 2-13, 16-27, and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 2 and 16, Schultz et al. disclose that the training data is of a limited amount, but are silent as to the details of how the second decision network is generated from the first decision network. Furthermore, there is no prior art of record that would suggest specifically how to generate the second decision network from the first recognition network, where the first and second decision networks are phonetic decision trees. Therefore, the steps of *identifying at least one acoustic context* and *adding node to the second diction network independent of other generating steps* would be allowable over the prior art of record if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 3 and 17 are allowable for similar reasons as those given above. Namely, there is no prior art of record that would suggest specifically how to generate the second decision network from the first recognition network, where the first and second decision networks are phonetic decision trees. Therefore, the step of *partitioning the training data using the first decision network* would be allowable over the prior art of record if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 30, as indicated in the previous Office Action, there is no prior art of record to suggest generating a multi-lingual speech recognizer from a first domain.

Claims 4-13 and claims 18-27 depend from claims 3 and 17, respectively, and thus would also be allowable over the prior art of record due to their dependency on allowable claims.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schultz et al. (*Language Adaptive LVCSR through Polyphone Decision Tree Specialization*) disclose an additional PDTS description. Schultz et al. (*Language Portability in Acoustic Modeling*) disclose recognizers can be adapted across languages. Rajput et al. (*Adapting Phonetic Decision Trees Between Languages for Continuous Speech Recognition*) disclose adapting English phonetic decision trees to Hindi phonetic decision trees.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian L Albertalli whose telephone number is (571) 272-7616. The examiner can normally be reached on Mon - Fri, 8:00 AM - 5:30 PM, every second Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BLA 5/18/05

DAVID L. OMETZ
PRIMARY EXAMINER

Notice of References Cited	Application/Control No. 10/007,990	Applicant(s)/Patent Under Reexamination FISCHER ET AL.	
	Examiner Brian L Albertalli	Art Unit 2655	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-			
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
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	K	US-			
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FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
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	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	Rajput et al., "Adapting Phonetic Decision Trees Between Languages for Continuous Speech Recognition", In ICSLP-2000, Oct. 16-20, 2000, vol. 3, pp. 850-852.
	V	Schultz et al., "Language Portability in Acoustic Modeling", Proceedings of the Workshop on Multilingual Speech Communication (MSC-2000), Kyoto, Japan, October 2000, pp. 59-64.
	W	Schultz et al., "Language Adaptive LVCSR through Polyphone Decision Tree Specialization", Workshop on Multi-lingual Iteroperability in Speech Technology (MIST-1999), Leusden, The Netherlands, September 1999, pp. 85-90.
	X	Schultz et al., "Polyphone Decision Tree Specialization for Language Adaptation", ICASSP-2000, Istanbul, Turkey, June 2000.

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims

Application No.	Applicant(s)
10/007,990	FISCHER ET AL.
Examiner	**Art Unit**
Brian L Albertalli	2655

√	Rejected	–	(Through numeral) Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

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Search Notes

Application No.	Applicant(s)	
10/007,990	FISCHER ET AL.	
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SEARCHED

Class	Subclass	Date	Examiner
704	244	5/19/05	BA
704	257	5/19/05	BA
704	10	5/19/05	BA
704	8	5/19/05	BA

INTERFERENCE SEARCHED

Class	Subclass	Date	Examiner

SEARCH NOTES (INCLUDING SEARCH STRATEGY)

	DATE	EXMR
Updated East Search (See Printout)	5/19/05	BA
Internet Search (Google)	5/19/05	BA